Farmland and Prairie Campaign

Description

The Farmland and Prairie Campaign Revision is intended to provide an update on the status of the 2005 Wildlife Action Plan (WAP) and to revisit the Goals, Stressors, Focal Species and Actions of this Campaign. There is an update of what has been accomplished towards the goals of the original Campaign as well as specific actions to help guide the next 10 years of implementation. While different goals could be set and other stressors and actions may be relevant and/or beneficial, the revision focuses on key things that are realistic, achievable, and most needed within the next 10 years to make progress towards the overarching goals of the Wildlife Action Plan and the Farmland and Prairie Campaign (Campaign).

The Campaign focuses on the conservation, restoration and management of grassland and shrubland habitats to benefit Species in Greatest Conservation Need (SGCN) and other associated wildlife. The amount of native prairie that has been converted and lost to agriculture and development exceeds 99.9% of the native prairie in Illinois. The small areas that remain as well as other restored grasslands are under constant threat from human development and deteriorating habitat quality. Populations of obligate grassland and shrubland wildlife that were once common across Illinois on small, diverse farms continue to decline as landowners convert grassland, shrubland, pasture, hay, small grains and hedgerows to soybeans, corn or (anthropogenic) developments. To further exacerbate the competition for land use, human populations continue to increase, global demand for agricultural commodities is on the rise and Illinois has lost 3.6 million acres of farmland since 1950 – mostly to development.

The priority actions from the 2005 WAP are: 1. Establish desired number and distribution of viable populations for each SGCN, 2. Manage habitats by promoting the natural processes, desired structure, and disturbance regimes to benefit native species, and 3. Develop resilient and connected habitats enabling species to withstand likely changes to the landscape and environment.

Goals and Current Status as of 2015

The goals of the Farmland and Prairie Campaign focus on maintaining and protecting existing grassland and shrubland habitat as well as identifying ways to restore and enhance additional grassland and shrubland habitat for SGCN. The original goals of the WAP for the Campaign are very aggressive and represent the habitat needed to reach the targets set for SGCN. The current Revision guidelines request the Campaigns to stay within the framework of 'realistic, achievable and most needed in the next 10 years' to make progress towards achieving the goals of the WAP. Therefore, the goals of this Revision focus on incremental progress towards the original goals set for the Farmland and Prairie Campaign.

The Campaign has made progress towards reaching some of the goals over the last 10 years, but there is still much to be done. Populations of many SGCN continue to decline and in some cases, the decline has accelerated in the last 10 years (Table 1). The loss of over 410,000 acres of grassland and shrub habitat (~ 140,000 of these acres were expiring CRP) over the last 10 years resulted primarily from conversion for row crop production between 2007 – 2012 (Decision Innovation Solutions, 2013). With 23.1 million acres devoted to principal field crops in 2015, this represents 65 percent of the total land area in Illinois. This habitat loss coupled with deteriorating habitat quality and poor weather during nesting and brood-rearing seasons for many of the last 10 years contributed to a decline in many avian SGCN (see Table 1).

Many SGCN readily respond to restored habitat and adequate management. However, the scale of restoration and management needed to reverse the decline will require widespread participation from private landowners who control the majority of the land (roughly 95% of Illinois is privately owned), adequate technical guidance to assist landowners with proper management practices, sufficient financial resources and an unwavering commitment to implement these changes.

Agricultural development is largely responsible for the loss of grassland and shrubland habitat in Illinois and the Midwest, but it may also hold the most promise for bringing change and restoration to the landscape. The record high commodity prices from 2007-2012 are directly linked to the loss of grasslands across the country and in Illinois over the last decade. Landowners and growers responded to the high market prices by planting marginal and/or highly erodible lands that had been pasture or hay. They also cleared old hedgerows and forests and converted small grains and alternative crops to corn and soybeans. The markets are currently down; making conservation programs an attractive option for some growers again, but highlighting the need for more permanent protection of grassland habitat.

A commitment to the management of publicly owned lands is an essential part of stopping and reversing the decline of grassland SGCN, but cooperation from private landowners is likely to be a significant part of a large-scale, grassland restoration. Ephemeral conservation programs like CRP are generally short-term (10-15 years) and result in varying levels of habitat quality, but they provide one of the best tools currently available to affect grassland restoration at any significant scale. There are currently over 800,000 acres enrolled in various CRP practices (mostly warm-season or cool-season grasses) in Illinois.

Interest in biofuels, cover crops and organic farming continues to grow and with these come new potential to improve conditions for grassland and shrubland wildlife. The amount of wildlife benefit they can provide and how prevalent they will become on the landscape is unknown.

<u>Goals - Species in Greatest Conservation Need</u>

- "Breeding populations of Partners in Flight priority shrub/successional species, including northern bobwhite, American woodcock and Bell's vireo, have doubled."
    - *Populations of Northern bobwhite and American Woodcock continue to decline (Table 1)*
    - *Bell's Vireo have made a modest improvement (Table 1)*

- "Breeding populations of Partners in Flight priority grassland species including Upland sandpiper, Loggerhead shrike, Bobolink, and Grasshopper sparrow have doubled."
    - *See Table 1. Most species are declining.*

- "Use of grassland habitats by migratory grassland sparrows, Bobolinks and meadowlarks has increased by 20%."
    - *According to the Breeding Bird Survey trend data (Table 1):*
        - *Grasshopper sparrow population down 6.58%*
        - *Henslow's sparrow population up 6.02%*
        - *Field sparrow population down 2.88%*
        - *Savanna sparrow population down 3.76%*
        - *Bobolink population down 6.77%*
        - *Eastern meadowlark population down 2.77%*

- "Implementation of the Greater prairie chicken recovery plan (Walk 2004) is completed, including recovery of Northern harrier, Short-eared owl, Upland sandpiper, Henslow's sparrow, Loggerhead shrike and other endangered species."
    - *Prairie Chicken Recovery Plan update – Three year SWG grant to translocate 300 prairie chickens form Kansas started in 2014. Ninety-three birds released in the spring of 2014, 49 birds were fitted with transmitters. Eleven radio-collared birds remained as of 1/21/15.*
    - *Year 2 translocation was scheduled to begin in March/April 2015 but has been 'paused' due to Out-of State travel authorizations and Administrative Review.*
    - *Record rainfall across Illinois in June and July of 2015 resulted in a very poor nesting season for the prairie chickens.*

- "Distribution and abundance of Franklin's ground-squirrel are known and conservation needs addressed."
    - *Ongoing research has identified a significant population of Franklin's ground squirrels in Sangamon County. Additional research provided insights into habitat requirements.*
    - *Maintenance of habitat in an early successional state and development of artificial topography for burrowing habitat is critical.*
    - *Franklin's ground squirrels are subject to genetic isolation when populations are cut off by development and road-building.*
    - *Additional populations must be identified and secured before de-listing (Chris Young).*

<u>Goals - Harvested Wildlife Resources – Upland Gamebirds</u>

- "Add about 124,000 coveys to the pre-hunt autumn population, estimated at 95,000 coveys in 1999 (Dimmick et al 2002). This population could support an annual harvest of 876,000 birds."
    - *In the 2005-06 season, 29,983 hunters killed an estimated 244,521 quail (including some from shooting preserves). In 2013-14 season, 10,779 quail hunters shot an estimated 51,628 wild quail.*
    - *Breeding Bird Survey results from 2003-2013 in Illinois show an annual trend of -5.18% (Table 1).*
    - *Southern Illinois University's quail researcher John Roseberry suggested/predicted that the "bobwhite could be virtually extinct in 20 years" if the current population trends didn't stabilize or begin to increase (Roseberry 2012).*

- "Increase the autumn pre-hunt flock of wild Ring-necked pheasants to 2 million birds from an estimated current 800,000 birds."
    - *Status in 2015 - In the 2005-06 season, 44,430 pheasant hunters killed an estimated 146,961 pheasants (including some from shooting preserves). In 2013-14 season, 14,940 pheasant hunters shot an estimated 20,613 wild pheasants.*
    - *Breeding Bird Survey trends in Illinois showed an annual trend of -9.28% from 2003 – 2013 (Table 1).*

<u>Goals - Grassland</u>

- "An additional 1 million acres of grassland, emphasizing upland, treeless grasslands larger than 0.5 mile wide and ecological connectivity among grasslands and other habitat patches, are established and maintained."
    - *Over 4000 acres of grassland have been purchased in the last 10 years (in the Grand Prairie, Southern Till Plain and Mason County Sands COA by the DNR)*
    - *IDNR has acquired and improved over 4000 acres of Grassland and shrubland (mostly Pheasant Habitat Areas or State Habitat Areas) since 2005 (TableXX)*
    - *Pheasants Forever acquired Forever Fields, a 508 acre L&W Reserve that has been restored and partially planted to native warm-season grasses and forbs.*
    - *Pheasants Forever acquired: Buffalo Prairie and T-Lakes, (377 acres-bargain sale to IDNR), Willow Creek, (161 acres-bargain sale to IDNR) – Table XX*
    - *The State Acres for Wildlife (SAFE) Program has enrolled nearly all of the allocated 19,600 acres since 2008. IDNR requested 10,000 additional SAFE acres from FSA in December, 2014. FSA in Washington DC received the request and is evaluating the application as of July, 2015.*

- *Pheasants Forever and Quail Forever have a 'Build a Wildlife Area Program' with a goal of opening 80 acres to walk-in upland hunting in every county they serve*
- *Congress Re-authorized the Farm Bill in 2014, but reduced the overall acreage cap by 8 million acres.*

- "Wildlife-value (structure, floral diversity, disturbance regimes) of 1 million existing acres of grassland are enhanced."
  - *Estimate of annual grassland management by all of IDNR?(reported to Herkert for AFWA Meeting?)*
  - *Funding and staffing levels at DNR and other federal agencies (i.e., NRCS and FSA) remain low, affecting their ability to manage the composition and structure of grasslands and shrublands, as well as the amount of disturbance applied to these habitats.*

- "Five additional "ecological pattern" grassland Bird Conservation Areas (see Fitzgerald et al. 2000) have been established."
  - *Goal has not yet been reached*

- "Three wet prairie areas of 1,000 to 2,000 acres, connected by dispersal corridors, are restored and managed in the Grand Prairie natural division.
  - *Goal has not yet been reached*

- "At least 6 areas (300-500 acres each) of ephemeral wetlands and accompanying upland sand prairie habitat are restored and managed for Illinois chorus frogs in the inland sand areas.
  - *Over 198 acres of CP23A (Wetland Restoration) have been enrolled in CRP in Mason Co (with Signup Incentive Payment from Illinois Chorus Frog Grant – Bluett et al).*
  - *Wetlands created in the Sands Areas include 16 lined wetlands, 5 excavated wetlands in Tazewell, Mason, Menard and Cass counties.*
  - *Wetlands at Sparks Pond and Clear Creek were restored.*
  - *One hundred sixteen acres of sand prairie on public land has been restored/managed (Clear Creek, Sparks and Rollo).*
  - *GIS analysis to identify potential habitat for IL Chorus frogs and mud turtles beyond areas previously identified as suitable habitat (Figure 3) and used this new layer to refine the COA boundaries.*

- "High-quality examples of all prairie communities, including all Grade A and B Illinois Natural Areas Inventory sites are restored and managed within all natural divisions within which they occur."
  - *Results of the Illinois Natural Areas Inventory pending*

<u>Goals - Shrub/successional</u>

- "Extent and condition of shrub/successional habitats are known and monitoring can identify conservation needs."
  - *Current research is using LIDAR to identify shrubland habitat*
  - *This research will help evaluate the amount and distribution of shrublands in parts of Illinois*

- "Additional habitat has been established and is being managed."
    - *Growing-season burns are being used in parts of the state to manage shrublands*

- "As appropriate, small woodlots and forests have native shrub-dominated, early successional edges and perennial herbaceous borders."
    - *In 2005 there were 18,076 CP33 acres in Illinois.*
    - *In 2014 there were 64,678 CP33 acres in Illinois. Net Gain of 46,602 acres of CP33.*

- "Herbaceous and shrub corridors link isolated upland habitat patches in areas of intensive agriculture."
    - *Net Gain of 46,602 acres of CP33 (not all acres link habitat patches).*

- Clarification or change in liability statues to promote private land access for wildlife associated recreation.
    - *745 ILCS 65 Recreational Use of Land and Water Areas Act was passed in January of 2014 which limits the liability of landowners who allow access for recreational and/or conservation purposes.*

- *A barn owl recovery plan was approved and a recovery project was initiated in 2009. Since this time, barn owls have been downgraded from 'endangered' to 'threatened' and 258 nest boxes have been installed. In 2014, 54 active nests in 19 counties were documented.*

Stressors/Threats – "What are our major challenges"

Habitat Stresses:

The Farmland and Prairie Campaign covers the wildlife and habitats in Illinois' highly agricultural landscape. Over half of the land area in the state is planted to 2 crops: corn and soybeans (almost 22 million acres in 2015) and this is the largest stressor for this Campaign (and many others). The amount of 'Natural' land cover includes very small and isolated native prairies, restored prairie, forest and riparian areas. Human development is constantly encroaching into both the agricultural and natural areas.

There are a wide range of specific stressors and actions that can be taken to improve and restore habitat for the targeted SGCN. Stressors identified in the 2005 Wildlife Action Plan include the extent and amount of fragmentation, composition/structure, disturbance/hydrology, invasive/exotics and pollutants/sediment in grassland and shrubland habitats. Issues on working farmland and prairie (both native remnants and restored prairie) and shrubland are different and described independently. Actions needed to reduce the effects of these stressors and improve/enhance these habitats are discussed together.

<u>Farmland Issues</u>
The effects of the recent spike in corn and soybean prices from 2008 – 2014 were far-reaching and will continue to be felt for many years to come. Across the state, pastures, fencerows and tracts of timber were cleared and tilled under to make room for more corn and soybeans. There were almost 140,000 fewer acres of CRP in 2014 than we had in 2005 (NASS 2015) and 400,000 fewer acres of total grasslands in Illinois (Citation). These changes exacerbated two of the primary stressors listed in the 2005 Wildlife Action Plan by decreasing the extent of these habitats and adding to the fragmentation of the landscape.

Other stressors include the continued widespread use of modern herbicides, fertilizers and insecticides which may affect the composition and quality of habitat and have poorly understood effects on wildlife. The widespread use and acceptance of new chemistries continues to raise questions about their effects and safety for wildlife as well as people. Regardless of the specific chemicals and their effects, new

chemistries, methods of delivery and interactions between agriculture and wildlife will continue to have potential impacts and create concerns.

Alternatives to traditional corn and soybean agriculture such as organic farming, cover crops and biofuels are steadily gaining acceptance, each with undetermined effects on wildlife and habitat value. Recent research (Van Beek et al 2014) found higher nest success, increased bird densities and species of higher conservation value in no-till fields compared to fields with conventional tillage. Nest success in no-till fields was relatively low but with the amount of no-till fields on the landscape, the impacts of timing and methods of tillage on nesting birds needs to be better understood (Van Beek et al 2014). Additional research is ongoing to look at bird use and nest success of various cover crops, perennial crops and rotations.

Grassland/Shrubland Issues

The direct loss of grassland and shrubland habitat is the primary threat to the species that depend on them. Loss can be from development (for agriculture, commercial or urban development etc.) or loss due to succession and deteriorating quality. Additional research is needed to determine the type, frequency and scale of management to maintain quality shrubland habitat. Current research is evaluating modern Light Detection and Ranging (LiDAR) equipment to identify and characterize shrublands at a large spatial scale. These data will be used to identify and quantify existing shrubland and other plant community types (Citation – Bluett).

Grasslands for hay or pasture can be suitable for many species of wildlife. However, poorly timed mowing, excessive grazing or woody succession can cause them to become unsuitable. Area-sensitive grassland species need large tracts of open grasslands that lack trees. Targeted conservation programs such as SAFE have created complexes of 'whole field' CRP. These focused areas are designed to amplify the benefits of clustered small fields to provide benefits similar to larger grasslands.

Extent (amount of habitat), Fragmentation, isolation, juxtaposition, patch size and edge effects,

- Reduction of 8 million acres in total CRP allotment (National allocation reduced from 32 million to 24 million in the 2014 Farm Bill).
- Total CRP enrollment in 2014 was ~140,000 fewer acres than we had in 2005 for Illinois
- Small Grains acreage in 2005-2015; 60,000 acres of oats, 630,000 acres of wheat in 2005. In 2014 there were 35,000 acres of oats and 740,000 acres of wheat (a net gain of 50,000 acres of rowcrops).
- Trends in modern agriculture continue to increase field size and expand into former grasslands, forest and old fields.

- Competition for limited land/habitat is exacerbated by the increasing human population and development and expansion of towns and cities.
- Existing grasslands are often poorly managed and unfit for grassland species most of the year due to mowing, haying or a lack of disturbance.
    - These grasslands can become traps that attract wildlife and then are manipulated in ways that destroy nests, individuals or populations
    - Grasslands left unmanaged can become unsuitable for many species of grassland wildlife
- Size and shape of grasslands are often too small and/or linear to provide adequate protection from nest predators that target edges and are more effective at finding their prey in small patches.
- High land values and commodity prices have put added pressure to sell and develop land or convert existing habitat to row-crop agriculture.
- Creating or expanding grassland habitat for wildlife is a difficult decision for landowners who make their living from agriculture

Composition-Structure

- Limited availability of staff to provide technical assistance and a lack of funding for habitat management on public and private lands
- Invasive species often change habitat composition and reduce habitat quality
- Some pollinators are host specific and must have their host plant to survive (Monarch butterfly and milkweeds)

Disturbance - frequency, timing and intensity of disturbances

- Changes in agricultural practices and crop choices have resulted in the loss of seasonal habitats provided by the rotations and farming methods common for many small grains (wheat, oats, etc.)

- Walk (2005) succinctly summarized that the condition of Grasslands in IL are increasingly divided into two conditions:
    - Lands that are too heavily disturbed (cropped annually, frequently mowed, heavily grazed or developed).
    - Lands that are given little or no management (fire, timely mowing, grazing, forestry) that are maturing into low quality closed forest.

Invasive/Exotic species

- Invasive species (e.g., tall fescue, reed canary grass, thistle species, autumn olive etc.) encroach on grasslands and shrublands and decrease habitat quality, change the structure/suitability of the habitat and displace native wildlife including SGCN.
- Invasive species can also make restoration of old pasture or early CRP plantings more complicated and labor intensive due to the difficulties of killing the existing grass and depleting the seed bank before planting native species. Many of these undesirable grasses are still recommended and sold for new waterway plantings, soil stabilization and some CRP practices.
- Other aggressive, broad-leafed species can invade both native and restored prairie and become monotypic stands with little diversity. This lack of diversity decreases the habitat quality for wildlife by decreasing the amount of insects attracted to flowering plants throughout the growing season provided by native forbs. Canada goldenrod, Teasel sp., Vetch sp., Sericea lespedeza, etc.
- The Invasive Species Campaign covers the issues caused by exotics in detail.

Other (Minor Stressors?)
Pollution – Sediment:
Community Stresses
Competitors
Predators
Parasites-Disease
Prey-Food
Hosts
Invasive-Exotics

Population Stresses
Genetics
Dispersal:
Recruitment:

- Declines in native pollinator populations due to habitat loss, fragmentation, invasive plants, non-native landscaping, and insecticides.
- Habitat fragmentation and reduced connectivity increases mortality and decreases recruitment of young (e.g., road mortality of Blanding's turtles) and limits gene flow between populations.

Mortality

Direct Anthropogenic Stresses
Killing, direct killing/removal by humans
Disturbance, direct harassment by humans

- Human usage patterns preclude species use or interrupt species use (e.g. nest disturbance).

Structures-Infrastructure:

- Reduced survival of migratory birds due to threats such as collisions with buildings, wind turbines, towers, etc.
    - Researchers currently working to determine the effects of wind turbines on migratory birds, bats and other species
        - direct mortality
        - avoidance behaviors by some species
        - reduced nest success

Additional challenges to implementation:

- Lack secure and consistent funding mechanisms for:
    - habitat acquisition and protection projects.
    - habitat improvement projects.
- Lack of staff to adequately plan and implement restoration projects
- The effects, severity and rate of climate change is unknown, but models predict negative effects on many groups of species and native habitats. (citation)

Focal Species in Greatest Need of Conservation

1) Eastern meadowlark - Grassland
2) Grasshopper sparrow - Grassland
3) Northern bobwhite - Successional Field, Grassland
4) Monarch/pollinators - Grassland, Agricultural
5) Ornate box turtle - Grassland
6) Henslow's sparrow - Undisturbed Grassland
7) Upland sandpiper - Grassland
8) Bobolink – Grassland

*Emphasis Game Species added 2015

Ring-necked pheasant – Grassland, Agricultural

Actions

- Manage existing grassland and shrubland areas to maximize habitat quality and increase populations of SGCN.

Need: Most of the grassland and shrublands in Illinois are in need of additional management in order to provide optimal habitat for SGCN. If the Campaign is to be successful, the best place to start and build momentum may be to lead by example and show other partners and the public what quality stewardship looks like on these habitats and the response from wildlife (e.g. Prairie Ridge)

- The Illinois Department of Natural Resources (DNR) should lead this effort by restoring and enhancing existing state grasslands and shrublands
    - Three additional Habitat Teams (one DNR team recently hired at Gibson City, July, 2015) should be hired and placed in key locations to manage Tier 2 and Tier 3 sites in the Grand Prairie and Southern Till Plain Natural Divisions in the next 10 years.
    - Dedicated funding for grassland management should be a priority for core grassland and shrubland sites on public and private lands (i.e. to fund habitat teams and additional funds to contract work on other priority sites)
    - Pheasant and Habitat Stamp Funds as well as State Wildlife Grants could be targeted for collaborative positions or contracts to do this work on state and private sites
    - Opportunistic grants like the current funding dedicated to improve Monarch Habitat

- More focused collaborative efforts within IDNR and with interested partners to target specific sites and goals of the Campaign
    - Partnerships with Pheasants Forever, Natural Resource Conservation Service, Farm Service Agency, TNC, etc. that target specific grassland and shrubland areas and goals
    - Improved coordination between Divisions and Offices at IDNR to focus on habitat objectives from the Campaign
- Develop a reporting/tracking system for IDNR and partners to actively track management efforts including acres managed (acres burned, disked, treated for invasive species etc.), acquisitions, restorations and other progress towards achieving the goals of the Farmland and Prairie Campaign.

Expected Outcome: This action should improve the condition of existing grassland and shrubland habitats. Many sites are under-staffed and/or lack specific and science-driven direction on grassland management. Populations of SGCN and other associated wildlife should increase on well-managed sites.

- <u>Stop the decline of SGCN by increasing the amount of appropriate habitat to provide sufficient quantity and quality across the species range (by acquisition or easement).</u>

Need: The goals of the Campaign are not attainable with the limited grassland and shrubland currently on the landscape. If we are going to make progress towards reaching the goals of the Campaign, we must make significant achievements in creating/converting grassland and shrubland habitat from other land uses (row-crop agriculture is the most likely land use)

- Work with Partners to better market existing programs (e.g. Conservation Reserve Program - SAFE, grants for acquisitions, etc) and to develop innovative and focused ways to restore habitat in focus areas
    - Use a combination of goals from different resource concerns to target focus areas
        - Illinois Nutrient Loss Reduction Strategy (2015) targeting nitrogen and phosphorous runoff identifies priority areas that overlap with State Acres for Wildlife areas.
        - Work with commercial and corporate agricultural retail suppliers, local yield monitor data and federal programs (Habitat Buffers for Upland Birds-CP33, State Acres for Wildlife-CP38 and Pollinator Habitat-CP42) to collectively market Farm Programs that will increase profits for landowners, reduce runoff and provide strategic grassland habitat

        - Through the Regional Conservation Partnership Program (RCPP), Illinois sits within the Mississippi River Basin that the USDA has identified as a Critical Conservation Area (CCA) and it is therefore eligible for the State, National and CCA pools for RCPP projects. ($235 million is allocated to the Program)
- Determine which agricultural practices (e.g. specific cover crops and rotations, organic crops, etc.) are beneficial (or less detrimental) to grassland wildlife on the 23+ million acres of rowcrops in Illinois.
- Partners need to explore the possibility of a permanent easement program (like the state Conservation Reserve Enhancement Program (CREP) that would offer incentives on top of CRP practices like SAFE or the Grassland Reserve Prorgam (GRP) and provide permanent grassland and shrubland habitat.

Expected Outcome: The high cost of land and volatile commodity markets make acquisition of former prairie (aka farm land) very expensive. Through selective acquisitions, easement programs and by pooling resources and working with new partners, it is possible that areas with multiple resource concerns can be successfully converted to grasslands or shrublands that help meet multiple goals for very different purposes.

<u>Implement the Campaign</u>

Need: There is much more to accomplish with the implementation of the Campaign.

- Target the development, approval and implementation of at least 1 recovery plan/year for a grassland or shrubland SGCN
- Target the development, approval and implementation of at least 1 Site Management Schedule/Plan for a Tier 2 or Tier 3 site per year
- Work with all partners to develop a public relations campaign to delay roadside mowing until after August 1 (Aug. 15 is preferable, but Aug. 1 would be a victory).
    - This includes Illinois Department of Transportation, IDNR, County and municipal governments, county Soil and Water Conservation Districts and the public
    - Possible Human Dimensions survey to determine the best approach and message

<u>Universal Management Actions for the Farmland and Prairie Campaign</u>

- Through incentives-based programs and technical assistance, establish or restore grassland, early successional/shrub, wetland, and riparian habitat.

Need: The amount and quality of grassland and shrubland habitat has declined steadily across the state over the last half-century. Wildlife that need these habitats have decreased in response.

- promote programs that offer incentives, easements or cost-share to establish and maintain grassland and shrubland habitat
- emphasize treeless grasslands larger than 0.5 mile wide and ecological connectivity among grasslands and other habitat patches to conserve area-sensitive grassland Species in Greatest Need of Conservation
- establish additional shrub/successional habitat in clumps, not strips, with native species
- work with conservation partners and private landowners statewide to enhance small woodlots and forests with native, shrub-dominated, early successional edges and perennial herbaceous borders

- expanses of rowcrop cultivation should be integrated with grassland, shrub/successional and open woodland habitats by including cover crops, organic practices, alternative crops (e.g. bioenergy crops) and no-till practices to increase wildlife benefits
- connect habitats with corridors and buffer strips where possible to facilitate movement of less mobile groups (herps, inverts, small mammals etc.)

Expected Outcome: Increasing the amount and quality of habitat for many SGCN should allow local populations to increase and expand.

- Through incentives-based programs and technical assistance, moderate disturbance regimes and enhance the condition of farmland habitats.

Need: The condition and management routine of many waterways, filter strips and other areas on working farmland is not conducive to wildlife. Minor changes to their management and the timing when it occurs could improve the value of these areas for many SGCN.

- Local campaigns and educational outreach to raise awareness of wildlife habitat and nesting seasons are needed to build support and acceptance of delayed mowing and changes to 'normal' farming practices
- use appropriately timed and applied prescribed fire and mechanical disturbance to manage existing habitats
- Growing season burns where and when appropriate (excessive grasses and or setting back climaxing shrublands)
- re-seeding/restoring habitats dominated by undesirable species (e.g., conversion of tall fescue and bluegrass to native warm-season grasses)
- use soil disturbance, appropriately timed prescribed fire and managed grazing to enhance grassland structure and floral diversity, and to control woody vegetation.
- discourage mowing of idle grasslands during wildlife nesting seasons, and eliminate unnecessary mowing (only mow after August 1 or late winter unless meeting a specific management objective).
- use mechanical removal and appropriately timed prescribed fire to maintain shrub/successional habitat and broad transitions between open and wooded habitat types
- limit access of livestock to streams
- develop property tax codes and farm programs that reward good stewardship of wildlife habitats on private lands

Expected Outcome: Providing the preferred timing and management actions to landowners can lead to the acceptance of practices that can be beneficial to wildlife.

- Restore and manage native prairie communities and populations of imperiled and extirpated prairie wildlife.

Need: The vast majority of native prairie has been lost in Illinois. Protecting these remnant areas and the species found there is important to preserve the legacy of our native prairies as well as the value of these sites to researchers to better understand the interactions and diversity of native flora and fauna found in native prairie. Information learned on these sites can potentially improve prairie restorations across the state.

- use appropriately timed prescribed fire and managed grazing to enhance grassland structure and floral diversity, and to control woody vegetation.
- continue removal and control (chemical, mechanical and biological) of invasive exotic plants, especially within high quality natural areas
- reintroduce native species into prairie habitat where decimating factors have been eliminated and natural recovery is unlikely

- In large grassland areas, linear wooded areas (overgrown fencerows) and tall trees should be removed wherever possible to reduce habitat for nest predators and to eliminate raptor perches.
- collaboration among the Illinois Endangered Species Protection Board, Illinois Department of Natural Resources, U.S. Fish & Wildlife Service and other agencies, organizations and institutions on recovery plans and actions for rare and declining species

Expected outcome:

- Emphasize multiple-resource benefits of conservation in agricultural landscapes.

Need: Some growers/landowners are simply not interested in managing for wildlife. They need to be motivated to adopt wildlife friendly practices by showing them the benefits to their operation and their bottom line.

- promote cover crops, organic farms and bioenergy crops that can contribute towards improved wildlife habitat. (The benefits of these practices to grassland birds and other SGCN are uncertain and research is underway with the INHS/University of Illinois to evaluate the benefits to grassland birds and which species and rotations are the best for wildlife as well as the most likely to be adopted by growers.)
- evaluate soil condition and carbon budgets for agricultural lands, and promote actions that improve soil condition and sequester atmospheric carbon
- continue working with and targeting voluntary farm programs to meet wildlife and habitat objectives compatible with and in addition to soil and water conservation.
- promote field borders of native warm-season grasses and forbs enrolled in the CRP program (CP33 and CP42) that are financially advantageous when planted on most wooded edges.
- reduce total sediment delivery to rivers, streams, wetlands, lakes and ponds
- improve water quality in rivers, streams, wetlands, lakes and ponds

Expected Outcome: Educating landowners and producers about the benefits of these land use practices to their operations will allow us to impact more acres for wildlife across the state.

<u>Specific Actions</u>

- Acquisition of grasslands should follow a Landscape Scale Approach (when possible) to maximize the benefits to grassland birds.

Need: Due to the high costs of acquisition and restoration, it will be much more productive if all partners work towards common goals in landscapes that are clearly identified, whenever possible. Defining what is desirable is an important step towards reaching the goals of the Campaign.

- Small-scale landscape grasslands should be made up of parcels of at least 40 acres, but 'bigger is better' and stand-alone grasslands should be at least 80 acres. Walk and Ward (2008) recommended $\geq$120 acres for PHA's in order to increase the diversity and abundance of grassland species.
- Medium-scale landscape grasslands should be at least 1,000 – 5,000 acres in size with a 250 – 1,000 acre core and the remaining landscape should be at least 35% grassland (Sample and Mossman 1997)

- Large-scale grassland landscapes should be 10,000 – 50,000 acre areas with a 2000 acre core and at least 35% of the remaining area within the landscape be in grassland (Sample and Mossman 1997)
- Collaboration with private landowners and other conservation organizations as well as the utilization of existing USDA Programs is likely necessary to implement grassland landscapes at the medium or large scale.
- The proportion of woody cover on *and around* potential grassland sites should be $\leq$ 10%. (Walk and Ward 2008)
- Potential grassland sites with a higher proportion of pasture, hay, small grains and other grasslands in their vicinity should receive preference for acquisition

Expected Outcome: Clearly identified landscapes and features that will benefit the Campaign goals will help partners organize and target acquisitions and easements in key areas.

- Inter-agency cooperation and coordination to ensure agricultural programs do not have conflicting objectives.

Need: An evaluation of Farm Programs that target conservation and resource concerns should also include looking at the cost/benefits of other policies that enable landowners to convert native habitat and remain eligible for other programs

- Promote the technology (that already exists) to evaluate fields (yield monitors, soil fertility, precision Ag equipment, etc.) and identify specific acres of individual fields that contribute the most runoff (sediment, phosphorous and nitrogen) and are NOT profitable to growers most years.
  - Educate growers that these acres are costing them money
  - Educate Ag Retailers (Brandt, FS, Grow-Mark, etc) that these areas are contributing to the Gulf Hypoxic Zone and they can take proactive steps to reduce runoff before federal regulation
  - Ag Retailers should be educated on Farm Programs (CRP, SAFE, etc) to increase revenue for their customers on these acres taken out of production
    - Retailers can offer the seed mixes and gear up to install the practices offered by SAFE and CRP, etc.to offset any lost revenue from sale of seed/chemical
    - Retailers can use the data from this to target more productive acres of fields and use the growers inputs from the non-productive acres on acres that will have a positive return

- Evaluate Federal Crop Insurance/Farm Programs that cover growers who convert grasslands and forests to crop production

- Evaluate programs are available from the USDA that could be focused to address resource concerns more efficiently:

  - The 2014 Farm Bill Authorized $XX Million for the Regional Conservation Partnership Program (RCPP) which identifies Illinois as a priority area to reduce runoff of nitrogen and phosphorous
  - Illinois Nutrient Loss Reduction Strategy (2015) identifies specific areas of excessive nitrogen and phosphorous runoff that are contributing to the Hypoxic Zone in the Gulf of Mexico (Citation)

        - The Conservation Reserve Program has practices that overlap with these priority areas and watersheds, but allocated acres for some programs have been exhausted
        - The 2014 Farm Bill reduced the National CRP allocation by 8 million acres

    - Consider advocating the expansion of the Sodsaver provision (which reduces federal crop insurance payments by 50% for the first 4 years) if landowners converts native prairie (would need to be clarified to see if FOREST would also qualify) into row-crop production to Illinois (currently in Prairie Pothole Region states).
    - Sodsaver provision currently limits Farm Program payments if growers are out of compliance with 'approved' conservation plans on Highly Erodible Land (HEL) in Illinois.
    - Biofuels and cover crops need to consider effects on wildlife in planning and promotion to eliminate invasives and aggressive/hybridized natives (ie switchgrass) that are being bred for aggressive characteristics to maximize biofuel production.

Expected Outcome: A comprehensive review of Federal and State resource concerns as well as the programs that are being offered may reduce the incentives to convert native habitat.

- At local, county and regional scales, involve stakeholders in discussions of long-term land use planning to meet agricultural, conservation, economic, residential and recreational needs.

Need:

    - Create database or central location for all WAP partners to report progress and track efforts towards implementing the goals of the plan.

Expected Outcome:

- Work with the National Bobwhite Conservation Initiative NBCI to implement the Coordinated Implementation Program (CIP) and establish several Focal Areas within the Focal Landscapes and Regions.

Table 1. Breeding Bird Survey Data from Illinois for SGCN 1966 - 2013

Credibility	Species	1966 - 2013 trend	2003 - 2013 trend
RED	American Woodcock	-0.94	-0.58
Yellow	Bell's Vireo	-0.6	0.86
Yellow	Bobolink	-6.77	-9.01
Blue	Dickcissel	-1.94	3.58
Blue	Eastern Meadowlark	-2.77	-2.55
Blue	Field Sparrow	-2.88	-1.85
Blue	Grasshopper Sparrow	-6.58	-5.73
RED	Henslow's Sparrow	6.02	6.5
Yellow	Loggerhead Shrike	-7.18	-10.34
Blue	Northern Bobwhite	-3.94	-5.18
Blue	Ring-necked pheasant	-4.05	-9.28
RED	Northern Harrier	1.52	4.81
Blue	Song Sparrow	-0.36	-1.76
RED	Upland Sandpiper	0.13	6.4

Regional Credibility Ranking - Shows the users an estimate of the validity of the data

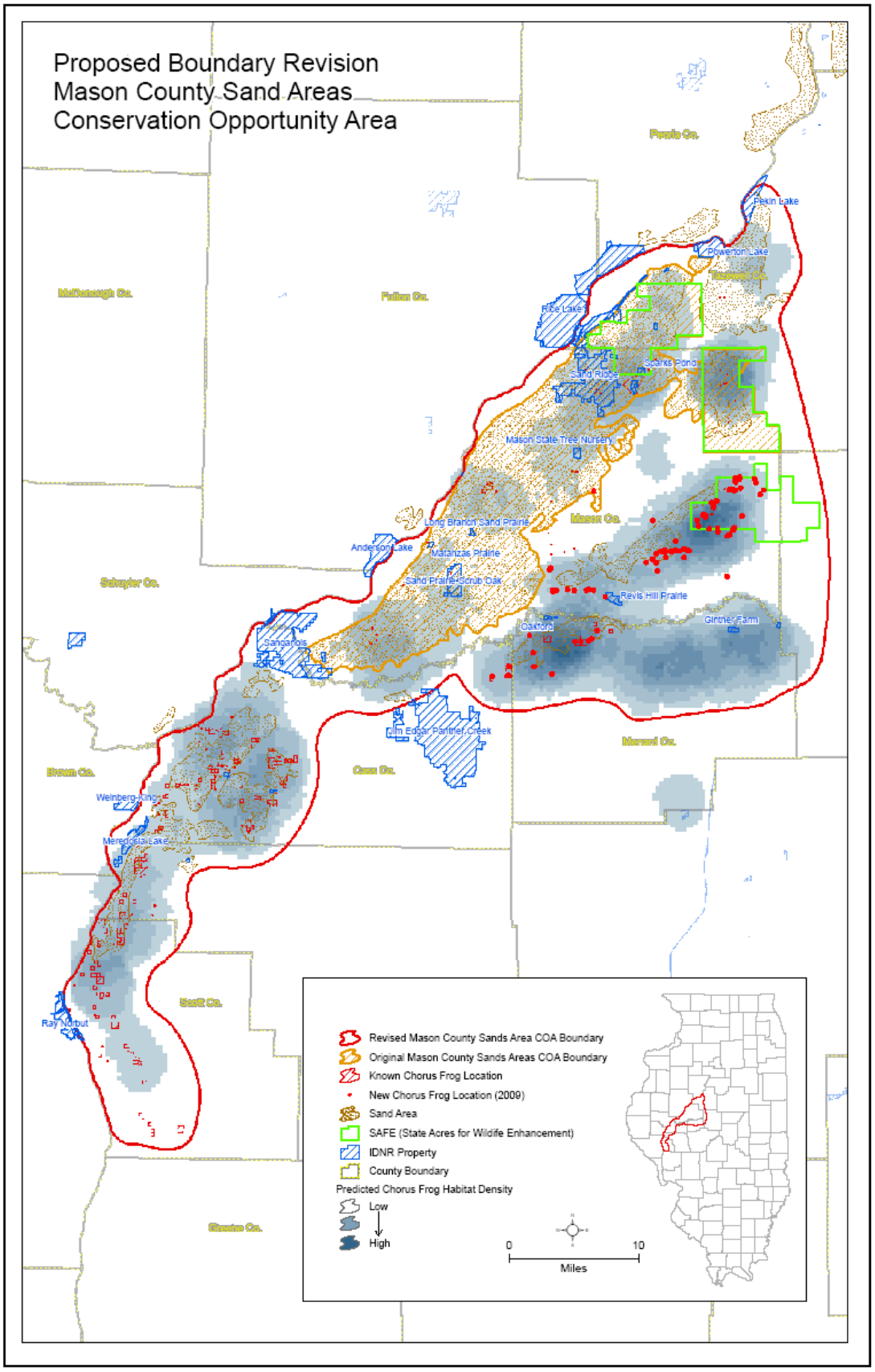
This category reflects data with an important deficiency.

This category reflects data with a deficiency.

This category reflects data with at least 14 samples in the long term, of moderate precision, and of moderate abundance on routes.

Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link. 2014. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2013. Version 01.30.2015 USGS Patuxent Wildlife Research Center, Laurel, MD*

Figure 2. Amendment to the Mason Co. Sands portion of the COA from Hulin et al



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Tier 3 – Highest Priority:

- Prairie Ridge Landscape, IDNR and private lands
    - Prairie Ridge State Natural Area
    - Twelve-Mile Prairie
    - Southern Till Plain SAFE areas within 25 mile radius
- Sibley/Saybrook complex, IDNR and private lands
    - SAFE areas in 50 mile radius
    - 9 additional PHA's within 50 mile radius (~1300 acres of state-owned grasslands)
- Midewin Area, USDA Forest Service and IDNR
    - Midewin Tallgrass National Prairie – 19,000 acres, USDA Forest Service
    - Des Plaines – 2000 acres of additional grassland habitat
    - Goose Lake Prairie – largest native tallgrass prairie remnant in Illinois
- Nachusa Grasslands complex, (TNC and IDNR)
    - Nachusa Grasslands
    - Franklin Creek, Castle Rock-Lowden Miller
- Kankakee Sands
    - Pembroke Savannas
    - Kankakee River
    - Momence Wetlands Area
- Pyramid-Arkland Landscape
    - Pyramid State Park
    - Burning Star SFWA?
- Jim Edgar/Panther Creek SFWA, IDNR
- Green River State Fish and Wildlife Area, IDNR
- Illinois and Mississippi River Sand Areas, IDNR and NP
    - Mason County Sands areas
    - Lost Mound, Hanover Bluff and Mississippi Palisades

Tier 2 – High Priority:

- Ten-Mile Creek State Fish and Wildlife Area
- Southern Till Plain SAFE Areas
- Grand Prairie SAFE Areas
- CRP and CREP enrollments $\geq$ 100 acres of grass and/or shrubs
- Metropolitan Sanitation District, Fulton County?
- All Pheasant Habitat Areas and State Habitat Areas
- Snakeden Hollow complex
    - Buffalo Prairie, T-Lakes
    - Victoria
    - Forever Fields (Pheasants Forever)
- Hill Prairie Corridors
    - Mississippi River
    - Illinois River

Tier 1 – Moderate Priority:
Areas of suitable habitat that are isolated or not in preferred landscapes and lack an easement or long-term protection

Management Resources

A list of resources (preferably including URLs) of documents and websites that would provide resources and more depth to concepts introduced in the Universal Management Recommendations. Alternatively we could house this section of the plan only on the IWAP website (so that it would be easier to keep current and updated) and only mention it in the plan.

Quail biology and habitat:
http://www.clemson.edu/extension/natural_resources/wildlife/publications/fs7_bobwhite_quail.html
http://www.dgif.virginia.gov/quail/open-land.asp
http://www.tn.gov/twra/pdfs/bwhitebasics.pdf

Quail stocking/release: http://mdc.mo.gov/blogs/more-quail/pen-raised-quail
http://quailforever.org/Habitat/Why-Habitat/Quail-Facts/Quail-Stocking.aspx
http://bringbackbobwhites.org/blogs/kentucky/195-more-pen-raised-quail-cmon

Invasive Species:
http://www.dnr.illinois.gov/INPC/Pages/INPCManagementGuidelines.aspx

Lit Cited:

(2013 Multi-State Land Use Study – Decision Innovation Solutions)

(Chris Young personal communication 2015)

Sauer, J. R., J. E. Hines, J. E. Fallon, K. L. Pardieck, D. J. Ziolkowski, Jr., and W. A. Link. 2014. *The North American Breeding Bird Survey, Results and Analysis 1966 - 2013. Version 01.30.2015 USGS Patuxent Wildlife Research Center, Laurel, MD*

Potter, B. A., Upper Mississippi River and Great Lakes Joint Venture

(Dimmick et al 2002).

(Roseberry 2012)

(Van Beek et al 2014)

Walk and Ward (2008)

(Sample and Mossman 1997)